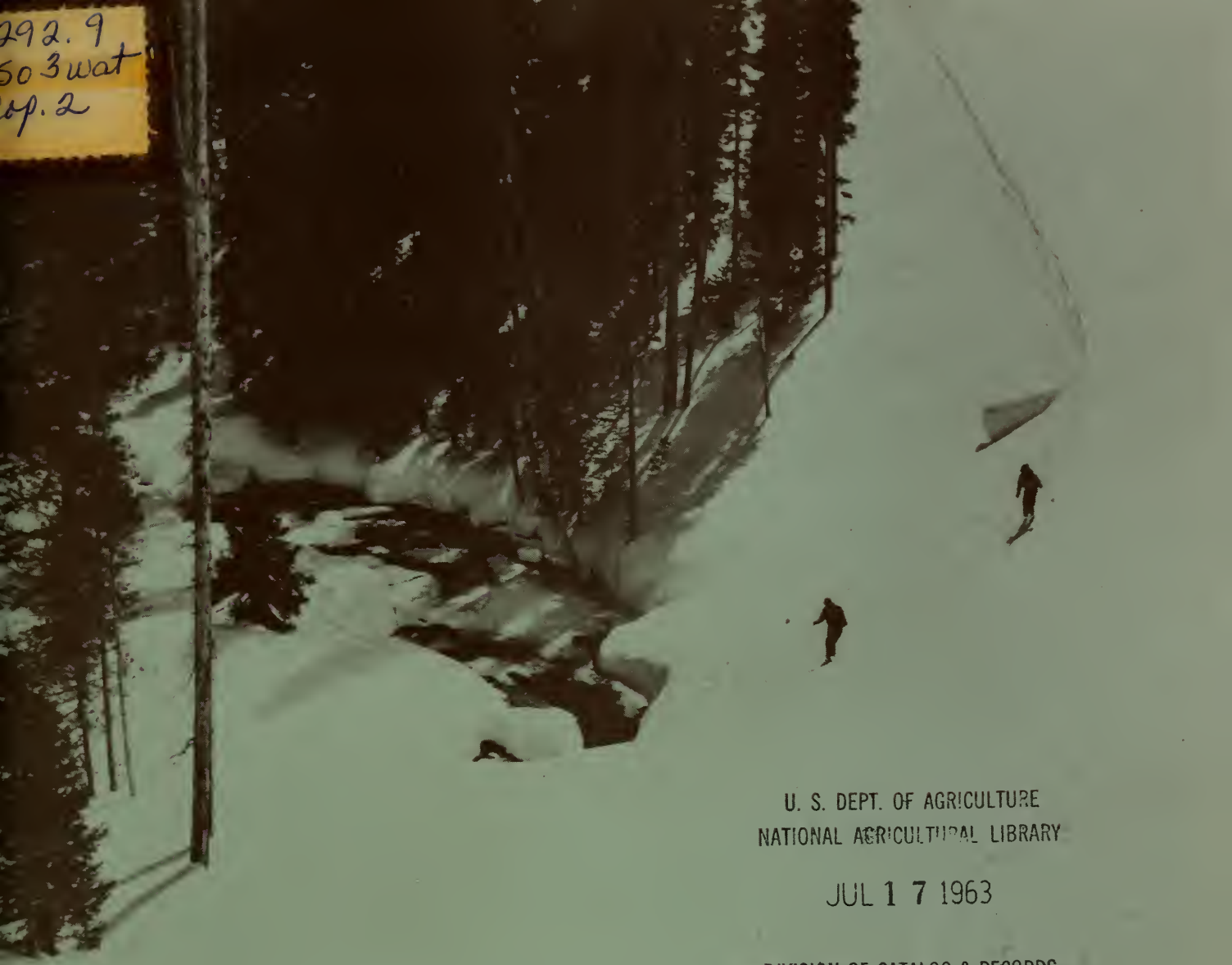


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JUL 17 1963

DIVISION OF CATALOG & RECORDS

WATER SUPPLY OUTLOOK
and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
for
IDAHO

UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE,
and
IDAHO STATE RECLAMATION ENGINEER

Data included in this report were obtained by the agency named above in cooperation with the Comptroller of Water Rights of British Columbia, and Federal, State and private organizations listed on the last page of this report.

||||||| AS OF |||||||
FEB. 1, 1963

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Water Supply Outlook Reports:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from advance estimates of the streamflow.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, up to 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

Streamflow forecasts are obtained by a comparison of total or maximum snow accumulation, as measured by snow water equivalent, to the subsequent spring and summer or snowmelt season runoff over a period of years. The snow water equivalent measured in selected snow courses provides most of the index to the streamflow forecast for the following season. More accurate forecasts are usually obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast procedure. Early season forecasts assume average climatic conditions through the snowmelt season.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions. Soil Conservation Service Reports may be secured from Water Supply Forecasting Unit, Soil Conservation Service, P.O. Box 4170, Portland 8, Oregon.

PUBLISHED BY SOIL CONSERVATION SERVICE

<u>REPORTS</u>	<u>ISSUED</u>	<u>LOCATION</u>	<u>COOPERATING WITH</u>
RIVER BASINS			
WESTERN UNITED STATES	MONTHLY (FEB.-MAY)	PORTLAND, OREGON	ALL COOPERATORS
STATES			
ALASKA	MONTHLY (MAR.-MAY)	PALMER, ALASKA	ALASKA S.C.D.
ARIZONA	SEMI-MONTHLY (JAN.15 - APR.1)	PHOENIX, ARIZONA	SALT R. VALLEY WATER USERS ASSOC. ARIZ. AGR. EXP. STATION
COLORADO AND NEW MEXICO	MONTHLY (FEB.-MAY)	FORT COLLINS, COLORADO	COLO. STATE UNIVERSITY COLO. STATE ENGINEER N. MEX. STATE ENGINEER
IDAHO	MONTHLY (JAN.-JUNE)	BOISE, IDAHO	IDAHO STATE RECLAMATION ENGINEER
MONTANA	MONTHLY (JAN.-JUNE)	BOZEMAN, MONTANA	MONT. AGR. EXP. STATION
NEVADA	MONTHLY (JAN.-MAY)	RENO, NEVADA	NEVADA DEPT. OF CONSERVATION AND NATURAL RESOURCES - DIVISION OF WATER RESOURCES
OREGON	MONTHLY (JAN.-JUNE)	PORTLAND, OREGON	OREG. STATE UNIVERSITY OREGON STATE ENGINEER
UTAH	MONTHLY (JAN.-JUNE)	SALT LAKE CITY, UTAH	UTAH STATE ENGINEER
WASHINGTON	MONTHLY (FEB.-JUNE)	SPOKANE, WASHINGTON	WN. STATE DEPT. OF CONSERVATION
WYOMING	MONTHLY (FEB.-JUNE)	CASPER, WYOMING	WYOMING STATE ENGINEER

PUBLISHED BY OTHER AGENCIES

<u>REPORTS</u>	<u>ISSUED</u>	<u>AGENCY</u>
BRITISH COLUMBIA	MONTHLY (FEB.-JUNE)	WATER RIGHTS BR., DEPT. OF LANDS, FORESTS AND NATURAL RESOURCES, PARLIAMENT BLDG., VICTORIA, B.C., CANADA
CALIFORNIA	MONTHLY (FEB.-MAY)	CALIF. DEPT. OF WATER RESOURCES, P.O. BOX 388, SACRAMENTO, CALIF.

WATER SUPPLY OUTLOOK
and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
for
IDAHO

Report prepared by

MORLAN W. NELSON Snow Survey Supervisor

and

J. ALDEN WILSON Asst. Snow Survey Supervisor

SOIL CONSERVATION SERVICE
SNOW SURVEY SECTION
BOX 1247, BOISE, IDAHO

Issued by

LEE T. MORGAN
STATE CONSERVATIONIST
SOIL CONSERVATION SERVICE
BOISE, IDAHO

GEORGE N. CARTER
STATE RECLAMATION ENGINEER
DEPARTMENT OF RECLAMATION
BOISE, IDAHO

WATER SUPPLY OUTLOOK for IDAHO



GENERAL SUMMARY - FEBRUARY 1, 1963

In general, the water supply outlook for Idaho is for well below normal for 1963. Excellent reservoir carry-over storage can make up for deficiencies in streamflow on rivers such as the Snake, Payette, Boise and the larger rivers in northern Idaho. Smaller drainages with inadequate storage facilities face the possibility of water shortages during the coming season.

During December and January, for the second year in a row, heavy snow accumulation did not occur and temperatures were very cold. This allowed soil profiles to freeze as much as three feet even high in the mountains where deep snow ordinarily prevents frozen soils. River channels froze over during the same period.

Snowfall during January, ordinarily one of the heaviest snowfall months, was unusually light throughout the entire state. A heavy storm during the last few days of January prevented this from being the lightest snow month ever recorded. The snow from this storm melted off within a very short period at the middle and lower elevations of the mountains.

A combination of conditions - warm temperatures, rain and snow-melt on frozen soils, and with stream channels frozen over - resulted in damaging high water throughout the state. The runoff, under these conditions, produced serious damage through soil erosion, destruction of canals, bridges and serious flooding. Soil moisture conditions did not change

significantly during the snow-melt and rain period because this water ran off over the frozen soil. Near the end of the storm and for the first few days in February, the soil did thaw in the upper foot, but no further rain or storms have occurred.

Many snow courses at middle and lower elevations had about the same water content five days after the storm as they had before it occurred. The water supply outlook in general was improved by these storms although no significant change was made because of the warm temperatures that followed.

A continuation of weather and storm patterns occurring to date would result in a low streamflow very early in the season, and the total flow for the season would be unusually low.

In an average year, around two-thirds of the total snow pack has accumulated by February. The chances of recovery have now been cut down seriously because only one-third of our snowfall period remains. The next six weeks of this winter's season will determine whether 1963 becomes a critically water-short year, or snowfall improves in relation to normal and reduces some of the problems of water shortage.

PLANNING AHEAD

by

Meador H. Wilkins, State Conservation Engineer
Soil Conservation Service

From present appearances, we may be in for another short water year. I don't like to write this any better than you like to read it, but that's the way it looks. If we are going to be short, now is the time to start planning how to make the most of the water that is available.

Reducing transmission losses from the point of diversion, the main canal, reservoir or other source to your fields is a good place to start. Lined ditches, pipelines, and elimination of vegetation on ditchbanks all save water.

If you have to leave part of your ground idle or dry-farm it, select the irrigated fields with care. Choose your best soils for most intensive cropping. Deeper soils that take water well and have a medium to high water-holding capacity are best. Within this limitation, select fields closest to the water supply to cut down on transmission losses. Plant a minimum acreage of crops requiring high water use and late season irrigation. Plant only the acres you can reasonably expect to have water to mature the crop. Avoid heavy fertilizing on all crops where the water supply may be inadequate.

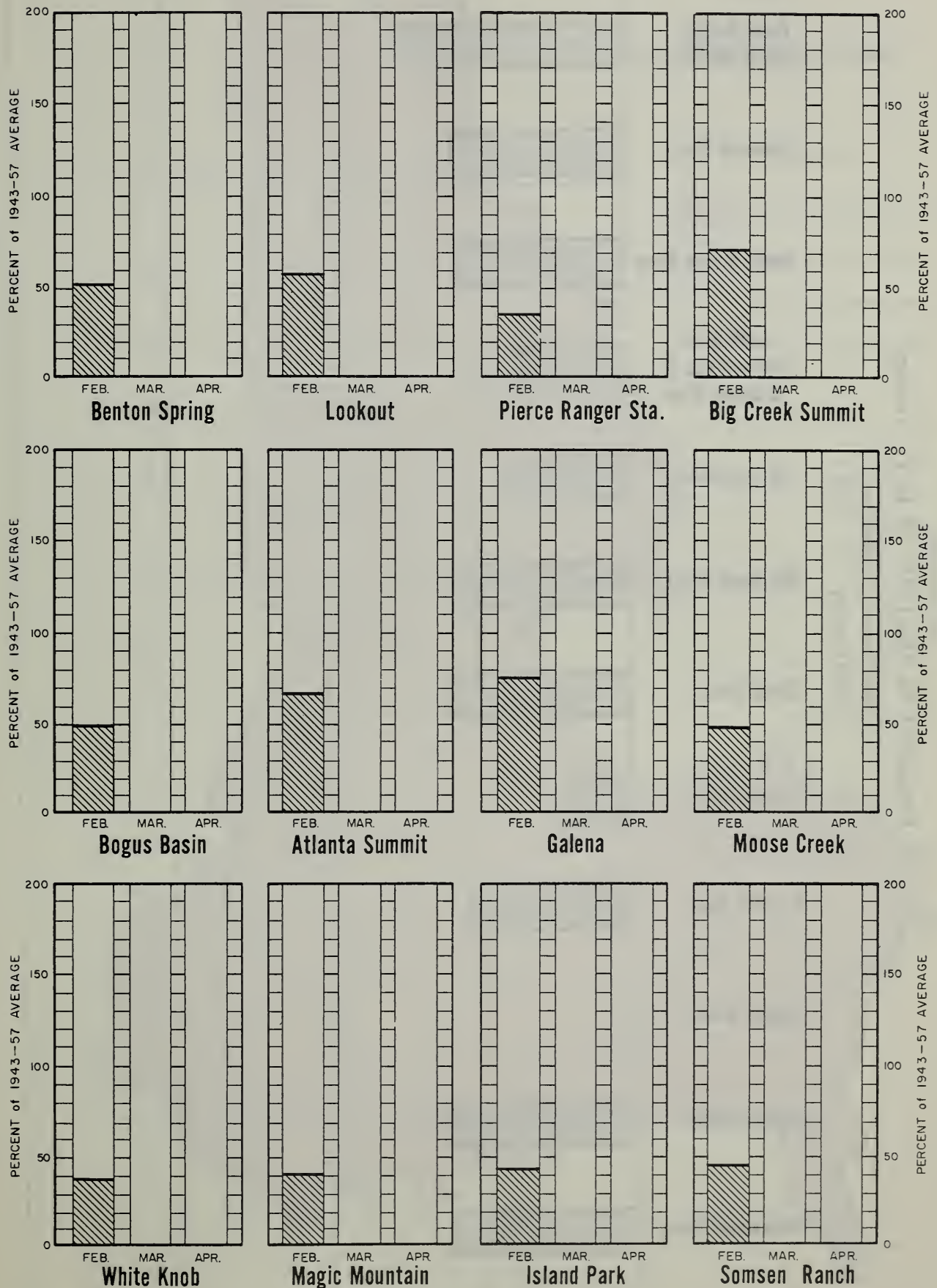
Plan to manage the water you have to apply only as much water as the plant root zone will hold and only when the plants need the water. Consult the soil conservation technician working with your Soil Conservation District or your County Agent for help on Irrigation Water Management. You may pick up some good ideas at the local water supply forecast meetings.

SNOW WATER DEPTHS ACCUMULATION

For Selected Snow Courses

As Compared To 1943-57 15Yr. Average

February 1, 1963



SNOW WATER DEPTHS

BY DRAINAGE

Compared To The 1943 - 57 15 Yr. Average

Snow Cover as of Approximately
February 1, 1963

PERCENT of 1943-57 AVERAGE

Kootenai R.
U. S. and Canada

70

Pend Oreille
Clark Fork R.

75

Spokane River

56

Upper Snake River

55

Raft River
Salmon Falls Cr.
Bruneau River

37

Big Lost River

39

Big Wood River

55

Boise River

58

Owyhee River

21

Payette River

53

Weiser River

Salmon River

61

Clearwater River

61

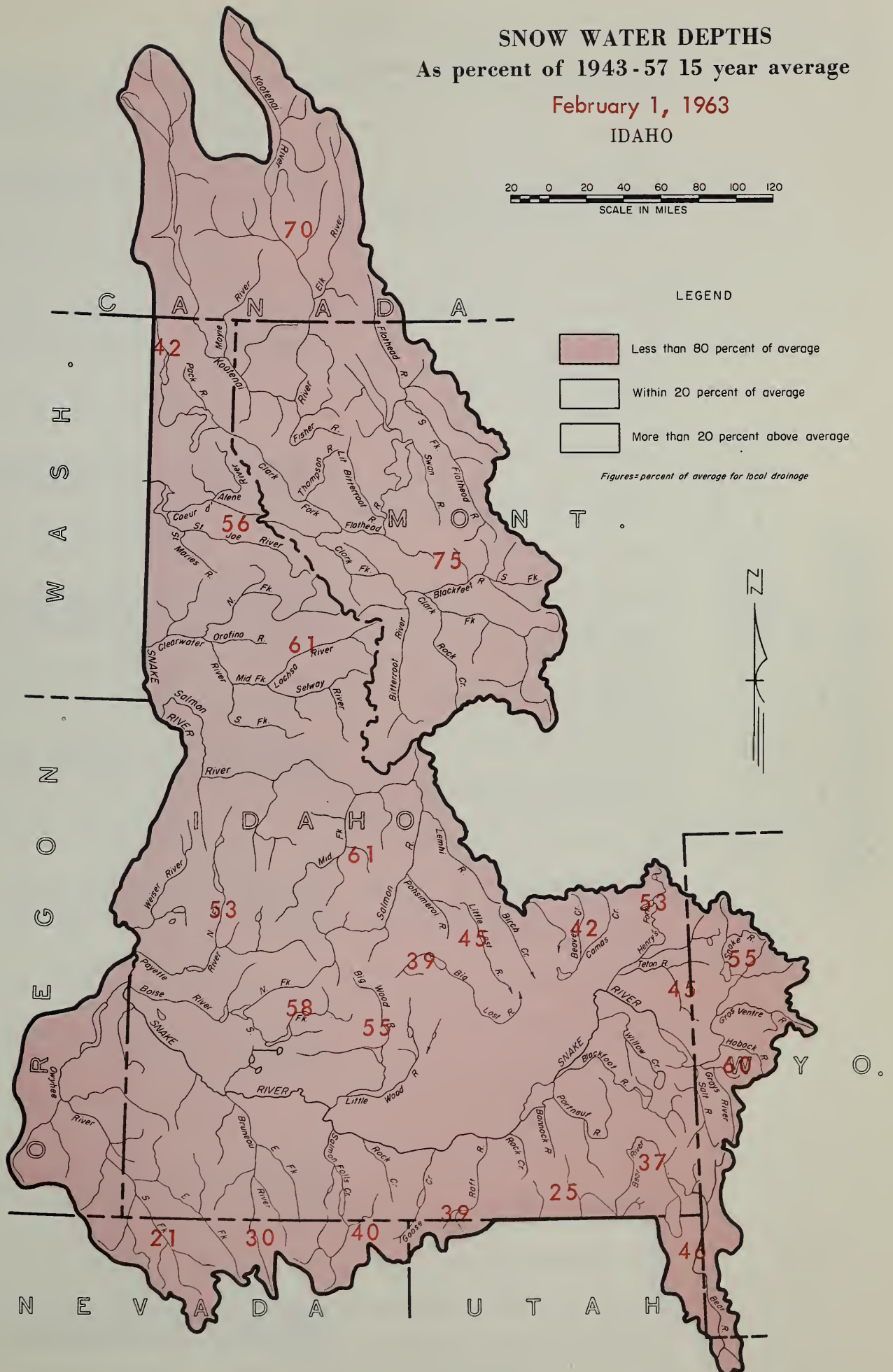
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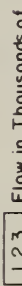
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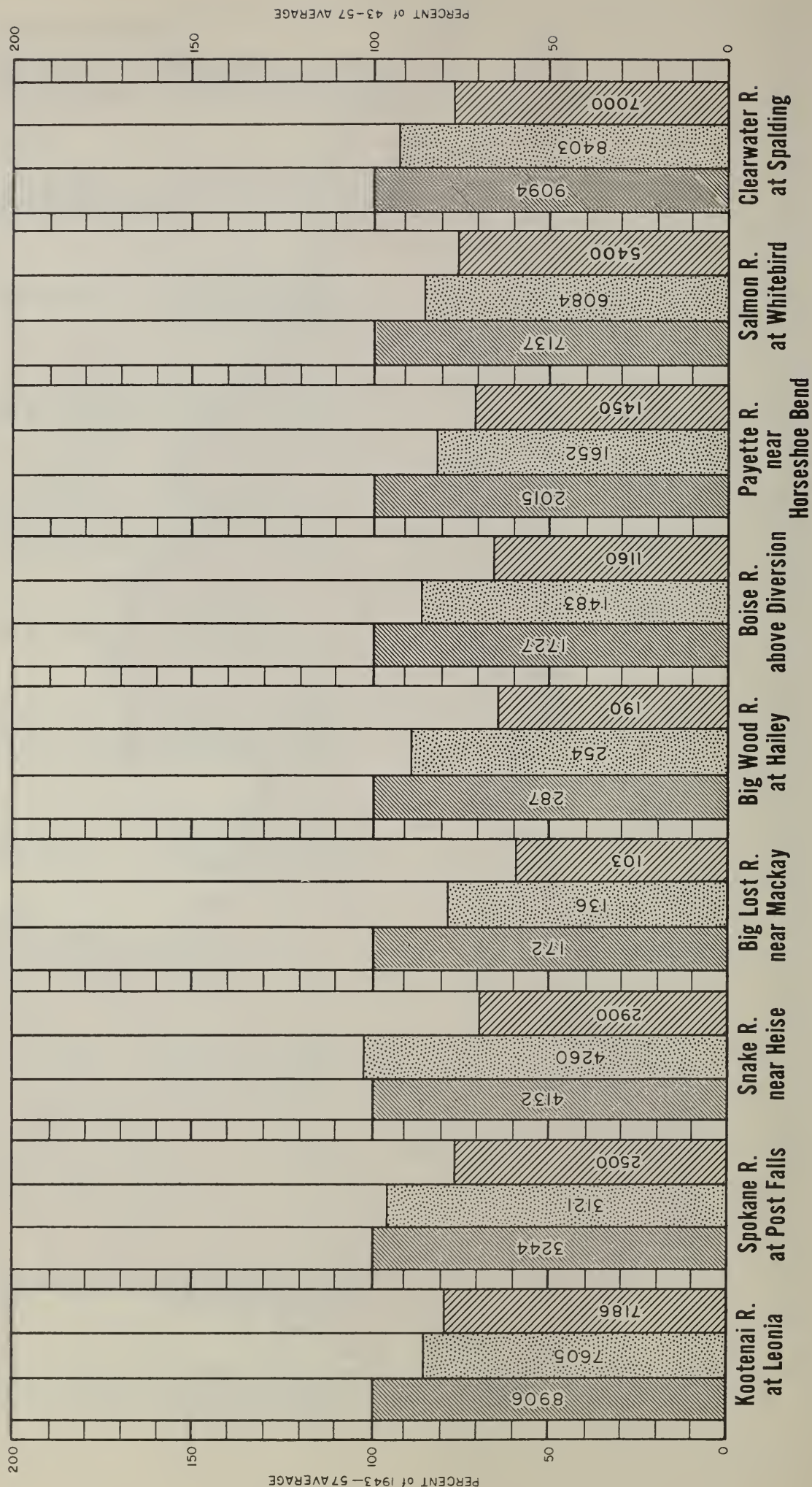
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February 1, 1963
IDAHO



WATER SUPPLY FORECASTS APRIL THROUGH SEPTEMBER PERIOD Based on Snow Surveys made on approximately February 1, 1963

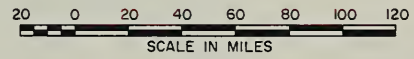
 15 Yr. Average Flow 1943-57  This Years Forecast
 Last Years Flow  Flow in Thousands of Acre Feet



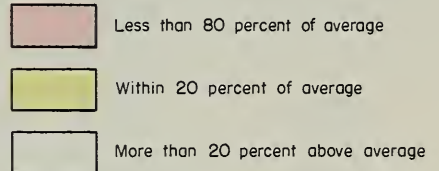
PROSPECTIVE WATER SUPPLIES

Based on Snow Surveys made on approximately
February 1, 1963

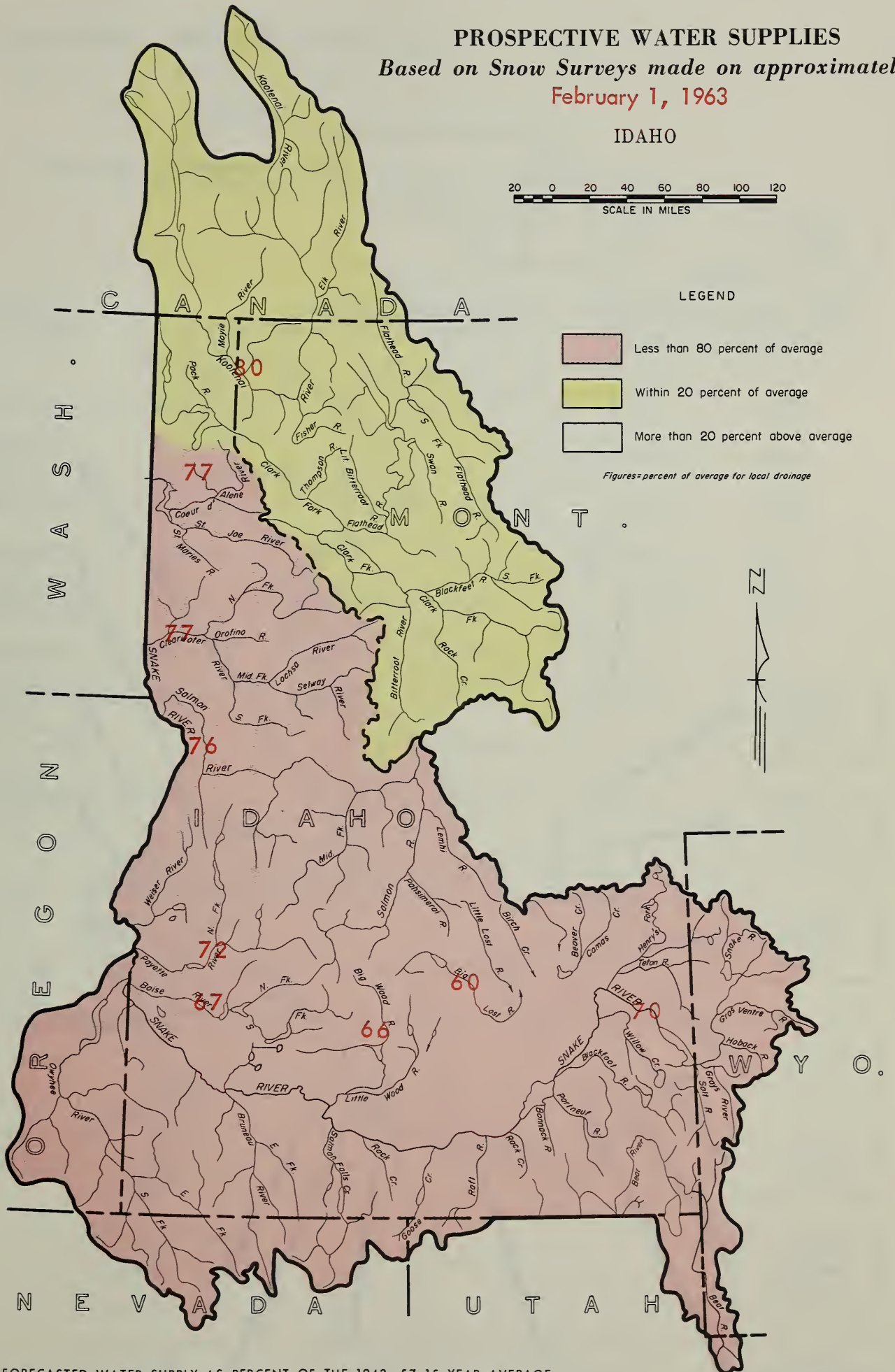
IDAHO



LEGEND



Figures=percent of average for local drainage



FORECASTED WATER SUPPLY AS PERCENT OF THE 1943-57 15 YEAR AVERAGE

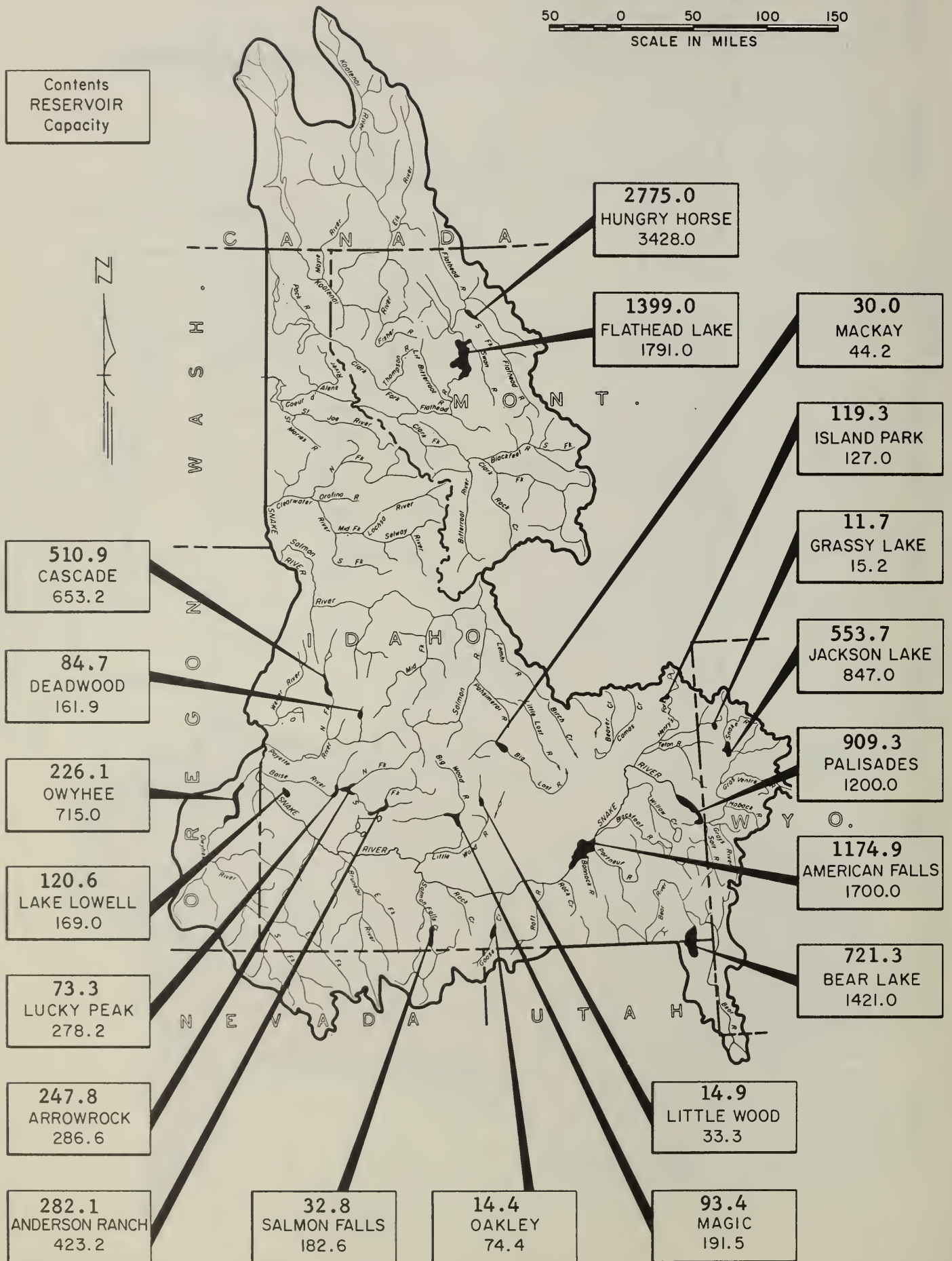
RESERVOIR STORAGE

USABLE CONTENTS (1,000 Acre Feet)

FEBRUARY 1, 1963

50 0 50 100 150
SCALE IN MILES

Contents
RESERVOIR
Capacity



VALLEY PRECIPITATION 1/

Division Averages and Departures
In Inches

DRAINAGE DIVISIONS	Fall		Winter	
	Sep. -Oct. -Nov. 1962		Dec. 1962 - Jan. 1963	
	Average <u>2/</u>	Departure <u>3/</u>	Average <u>2/</u>	Departure <u>3/</u>
Kootenai, Canada & U. S.	6.91	+0.89	4.61	-1.75
Flathead	5.19	-0.02	3.85	-0.53
Clark Fork	3.79	+0.89	1.95	0.00
Pend Oreille-Spokane	10.30	+1.47	4.85	-3.35
Upper Snake	3.00	-1.83	2.81	-1.95
Snake River Plain	1.66	-0.44	1.55	-0.45
Salmon-Payette-Boise	6.88	+2.17	2.77	-2.57
Clearwater	9.60	+2.90	4.45	-1.45
Southeastern Oregon	7.14	+1.24	1.70	-0.85

1/ Preliminary analysis by U. S. Weather Bureau from data furnished by Meterological Service of Canada and U. S. Weather Bureau.

2/ 15-year (1943-1957) division average.

3/ Departure from 15-year (1943-57) drainage division average.

Inventory of the [illegible]

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WATER SUPPLY OUTLOOK and SNOW SURVEYS KOOTENAI, PEND OREILLE, SPOKANE, PALOUSE, CLEARWATER, SALMON WATERSHEDS IDAHO

as of
FEBRUARY 1, 1963

GENERAL SUMMARY

The water supply outlook for this area is well below normal for this time of the year. The conditions in general are very spotted with unusual storm patterns prevailing over most of the area.

Snow cover indicates this highly variable situation with 18% of normal on the Palouse River and 75% on the Pend Oreille. A snowstorm during the last few days of January deposited heavy amounts of snow for a short period of time but was followed by warm winds. These conditions resulted in melting the snow at the lower elevations and increasing streamflow which came down on rivers choked with ice. This situation caused an unusual amount of damage to structures spanning some of the rivers.

Soil moisture status beneath the snow in this area is normal or slightly above. However, as a result of the light snow pack early in the season, the soils at high elevations froze much deeper than usual. This condition also added to the runoff from melting snow and warm rains occurring near the end of the month.

Reservoir-stored water throughout the area is better than normal. The large reservoirs reflect good carry-over storage from the 1962 season.

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair", "Average" or "Excellent" and STREAMFLOW FORECASTS (1,000 Ac. Ft.) ^a

STREAM and/or FORECAST POINT	OUTLOOK	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE
Kootenai River at Leonia o		7186	Apr-Sep	8907	80
		5000	Apr-Jun	6257	80
Spokane River at Post Falls e		2500	Apr-Sep	3242	82
Clearwater River at Spalding		7000	Apr-Sep	9094	77
Salmon River at Whitebird		5400	Apr-Sep	7137	76

Report Prepared by

M. W. NELSON AND J. ALDEN WILSON

U.S. DEPARTMENT OF AGRICULTURE --- SOIL CONSERVATION SERVICE

P.O. BOX 1247, BOISE, IDAHO

HISTORICAL DATA (Kootenai River) Data obtained from U.S. Geological Survey records.

YEAR	SEASONAL VOLUMES at LEONIA STREAMFLOW (1,000 Acre-Ft.)			RIVER FLOOD STAGES			
				LEONIA		BONNERS FERRY	
	APR - SEPT.	APR - JUNE	MAY - JUNE	GAGE HEIGHT	PEAK C.F.S.	MAX. DISCH. C.F.S.	GAGE HEIGHT
1943	9,255	6,191	4,333	114.12	58,000	65,000	24.99
1944	4,136	2,818	2,505	108.55	30,000	31,100	14.02
1945	6,050	4,060	3,802	114.07	57,700	61,300	24.04
1946	9,510	6,903	5,834	116.65	80,500	77,000	30.41
1947	9,100	6,823	5,629	117.31	88,200	82,500	31.31
1948	11,073	8,440	7,508	123.15	139,000	123,000	35.32
1949	5,999	5,366	4,316	116.68	81,700	75,200	30.84
1950	9,965	6,677	5,890	118.21	90,100	87,100	33.98
1951	10,807	7,101	6,001	117.04	76,300	83,800	31.86
1952	8,454	6,096	4,659	114.87	63,000	69,700	26.30
1953	8,402	5,600	5,024	116.51	74,700	76,700	30.21
1954	12,213	7,583	6,878	120.81	104,000	132,000	35.55
1955	8,444	5,377	4,996	117.30	79,300	86,200	31.80
1956	11,494	8,755	7,308	121.65	115,000	127,000	37.09
1957	7,798	6,074	5,468	115.93	71,000	78,300	28.81

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
		DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION						
Brown	3100	36	6.7	1/30	4.3	4.6*	--
Fohl	3450	48	13.3	1/30	6.0	8.4*	--
Midway	2200	36	6.1	1/30	3.0	3.8*	--
* Spring Measurements.							

COMPARISON of SNOW COVER

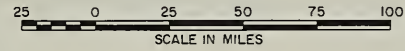
RIVER BASIN WATERSHED	NO. OF COURSES AVERAGED	THIS YEARS SNOW WATER EXPRESSED AS PERCENT OF :	
		LAST YEAR	AVERAGE ^b
Kootenai-Canada & U.S.	6	70	70
Pend Oreille-Clark Fork	20	64	75
Priest	2	40	42
Spokane	1-2	53	56
Palouse	4	16	18
Clearwater	3	53	61
Salmon	8	59	61

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943 - 57 AVERAGE
Hungry Horse	3428.0	2775.0	2488.0	2620.0*
Flathead	1791.0	1399.0	1200.0	991.3

(*) Estimated 1943-57 average. (**) Average for period of record. (▲) Affected by dike breakage downstream. (○) Forecasts made by P. E. Farnes, SCS, Bozeman, Montana. () Aerial observation, water content estimated. (a) Assuming normal meteorological conditions. (b) Actual or estimated 1943-57 average. (c) Observed flow corrected for storage in Flathead Lake and Hungry Horse. (d) Observed flow corrected for storage in Priest Lake. (e) Observed flow corrected for storage in Coeur d'Alene Lake and diversions by Spokane Valley Farms Company and Rathdrum Prairie Canals.

KOOTENAI, PEND OREILLE, SPOKANE, PALOUSE, CLEARWATER, SALMON WATERSHEDS



LEGEND

- Watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- ▲ Forecast Point
- Snow Course
- ⊕ Aerial Snow Depth Gage
- ⚡ Soil Moisture Station



SNOW

SNOW COVER		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (inches)	WATER EQUIVALENT (inches)	WATER EQUIVALENT (inches)	
					LAST YEAR	1945-46 AVERAGE
Agave Springs	8200	2/4	21	4.4	--	--
Alpine Creek	1360	2/1	12	1.7	T	--
Beaton Meadow	2354	2/1	9	1.0	6.6	5.5
Beaton Spring	4500	2/1	30	7.8	15.6	15.4
Big Creek Summit	5608	2/4	55	16.9	26.5	24.3*
Boyle's Creek	5500	1/29	32	6.5	17.6	--
Boyden's Arroyo	700	2/5	16	4.2	10.9	7.8*
Chapman Creek	4220	1/30	10	1.3	4.2	2.8*
Copier Camp	2500	2/4	12	2.4	--	--
Cummins Creek	3500	1/28	5	0.9	--	5.6*
Deadwood Summit	7000	2/4	73	21.1	26.0	30.7*
East Twin	4000	1/28	7	1.2	10.5	9.2*
Fish Lake Arroyo	5000	2/5	56	19.4	29.1	26.6*
Forest	4550	1/30	13	2.5	6.8	--
Fourth of July Summit	3100	1/31	10	1.7	9.8	--
Galena Summit	8795	1/29	30	7.0	14.8	15.7*
Galena Summit	8795	2/4	59	11.6	14.8	15.7*
Garrison Creek	8050	1/28	10	2.2	5.1	--
Greer Summit	3000	2/1	13	1.9	3.2	--
Howard Creek	3500	1/28	4	0.5	2.9	4.0*
Johns Creek	3810	1/30	9	1.0	4.0	2.3*
Kellogg Peak	5560	1/29	35	9.6	--	--
Lookout	5250	1/31	53	16.5	30.1	25.8*
McCann	4300	1/30	10	2.0	9.6	--
Midway	2200	2/1	12	1.7	T	T
Mill Creek Summit	8870	2/5	51	10.0	--	--
Moore Creek	6200	1/28	26	5.7	11.6	11.9*
Moose Mountain	4800	1/28	13	3.2	14.3	12.8*
Mosquito Ridge	5110	1/29	61	16.7	29.1	--
Nahavogal	7600	2/4	2	0.4	--	--
Pierce Mt. N.E.	3171	1/30	15	3.1	10.7	9.1*
Rock Flat Summit	5200	1/28	18	3.2	13.2	12.9*
Roland Summit	5200	1/29	45	12.3	--	--
Schwartz Lake	8500	2/4	16	3.2	--	--
Sherry	3200	1/27	14	3.0	--	--
Squaw Meadow	5800	2/6	47	14.9	21.9	27.6*
Summit	5600	1/29	61	16.7	--	--
Sweeney	4435	1/30	11	3.1	6.7	--
Two Peaks	9190	2/5	50	9.8	--	--
Vienna Mine	8900	1/28	34	7.9	--	--
West Twin	4200	1/28	7	1.1	9.1	8.0*
Whitetail Summit	4400	1/30	12	1.6	8.8	5.2*

UNITED STATES DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE
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"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK and SNOW SURVEYS BOISE, PAYETTE, WEISER, BRUNEAU, OWYHEE WATERSHEDS IDAHO

as of

FEBRUARY 1, 1963

GENERAL SUMMARY

The water supply outlook for the southwest portion of Idaho varies from poor to near normal conditions by using stored water. The Boise and Payette drainages, with excellent storage facilities and excellent carry-over storage, can deliver normal water supplies excepting those water rights which are controlled by the actual flow of the river. At this time, the light snow pack and dry soil conditions beneath it indicate that streamflow will fall early in the season.

The water content of the snow pack varies from 21% of normal on the Owyhee to 58% on the Boise. As a result of the unusual conditions in our mountains so far into February, the snow courses have been losing water content through melting at elevations up to 9,000 feet. The low elevation snow has already melted. The south slopes in the mountains are bare to elevations exceeding 9,000 feet.

The soil moisture status in this section of the state is unusually dry beneath the snow pack. The soil mantle at the lower elevations had more moisture on the first of January than it is showing at the present time. This is due to the fact that these soils were frozen when the rain and snowfall occurred near the end of January. The rain and melting snow ran off creating floods or damage in many areas. This did not prime the soils significantly as it would have if they had not been frozen.

Reservoir storage on the Boise and Payette Rivers is well above normal for this time of the year indicating good carry-over from the 1962 season. Owyhee Reservoir storage is well below normal, but probably sufficient to carry another irrigation season even with the light snow pack.

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair", "Average" or "Excellent" and STREAMFLOW FORECASTS (1,000 Ac. Ft.) ^a

STREAM and/or FORECAST POINT	OUTLOOK	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE
Boise River nr. Boise ^c	Average	1160	Apr-Sep	1727	67
Payette River nr. Horseshoe Bend ^c	Average	1450	Apr-Sep	2015	72
Squaw Creek	Fair		Apr-Sep		
Weiser	Fair		Apr-Sep		
Owyhee	Average		Apr-Sep		
Bruneau	Poor		Apr-Sep		
Little Camas - Canyon Creek	Fair		Apr-Sep		

COMPARISON of SNOW COVER

RIVER BASIN WATERSHED	NO. OF COURSES AVERAGED	THIS YEARS SNOW WATER EXPRESSED AS PERCENT OF :	
		LAST YEAR	AVERAGE ^b
Boise	13	64	58
Payette	9	56	53
Bruneau	7	33	30
Owyhee	14	25	21

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Anderson	423.2	282.1	27.1	245.2*
Arrowrock	286.6	247.8	225.7	170.5
Lucky Peak	278.2	73.3	10.1	--
Lake Lowell	169.0	120.6	98.9	95.7
Cascade	653.2	510.9	152.1	259.7*
Deadwood	161.9	84.7	53.5	80.9
Owyhee	715.0	226.1	85.5	416.6

Report Prepared by

M. W. NELSON AND J. ALDEN WILSON

U.S. DEPARTMENT OF AGRICULTURE --- SOIL CONSERVATION SERVICE

P.O. BOX 1247, BOISE, IDAHO

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
		DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION						
Bogus Basin	6120	48	13.1	2/4	5.8	6.1	6.2
Bogus Basin Road	4830	48	7.1	2/4	4.6	4.9	4.7
Mud Flat	5500	48	12.8	2/2	6.2	6.0	Frozen
Triangle	5150	60	16.2	2/2	11.1	--	--

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Antelope Ridge	5900	2/2	T	T	1.1	--
Atlanta Summit +	7500	2/4	56	15.6	23.3	23.7*
Bad Bear	5500	2/5	11	3.4	11.8	--
Battle Creek +	5700	1/23	1	0.2	1.9	--
Bear Creek + Nev.	7800	1/28	20	4.5	14.2	12.1*
Bennett Mountain	6650	2/2	26	5.5	13.0	--
Big Bend Nev.	6700	1/28	T	T	5.0	6.9*
Big Creek Summit	6608	2/4	55	16.9	26.5	24.3*
Bogus Basin	6120	2/4	23	7.9	16.4	16.5*
Bogus Basin Road	5360	2/4	T	T	3.5	5.2*
Boulder Creek	5500	1/29	32	6.5	17.6	--
Bull Basin +	5600	1/23	1	0.1	0.5	--
Camas Creeks Divide +	5720	2/4	0	0.0	5.6	--
Couch Summit +	7000	1/28	19	4.4	12.4	14.0*
Cozy Cove	5900	1/28	10	2.5	11.6	11.8*
Cozy Cove	5900	2/5	13	3.9	11.6	11.8*
Crawford Rgr. Sta.	4800	1/31	9	1.0	5.8	5.3*
Crawford Rgr. Sta.	4800	2/4	0	0.0	5.8	5.3*
Danskin+	5650	2/4	6	1.8	8.0	--
Deadwood Airstrip	5440	1/28	9	2.4	11.4	--
Deadwood Airstrip	5440	2/5	10	3.6	11.4	--
Deadwood Dam	5290	1/28	11	3.0	11.4	12.7*
Deadwood Dam	5290	2/5	15	4.6	11.4	12.7*
Deadwood Summit	7000	2/4	73	23.1	26.0	30.7*
Dixie Hill	5230	2/2	T	T	6.0	--
Dollarhide Summit +	8700	1/28	33	9.2	15.6	20.2*
Fry Canyon Nev.	6700	1/28	T	T	3.3	6.5*
Galena	7500	1/29	25	5.6	12.6	13.3*
Galena	7500	2/4	49	10.0	12.6	13.3*
Galena Summit	8795	1/29	30	7.0	14.8	15.7*
Galena Summit	8795	2/4	59	11.6	14.8	15.7*
Goat Creek + Nev.	8800	1/28	13	2.8	7.8	10.6*
Gold Creek Nev.	6600	1/28	0	0.0	3.4	4.1*
Greenfield Flat +	7370	2/4	75	23.0	28.0	--
High Valley Summit +	5170	2/4	9	2.3	8.1	--
Hummingbird Springs + Nev.	8945	1/28	24	5.4	10.9	12.7*
Hyde Pasture +	5800	1/23	1	0.2	1.9	--
Jacks Peak Nev.	8420	1/29	17	3.2	--	--
Jackson Peak +	7000	2/4	51	14.2	21.5	21.9*
Little Camas Flat +	4950	2/4	0	0.0	2.7	--
Long Tom +	4550	2/4	0	0.0	0.6	--
Lower Jack Creek	6800	1/28	T	T	2.8	2.8*
Mica Ridge +	6800	2/4	45	13.8	--	--
Moore's Creek Summit	6100	2/5	34	9.5	19.6	22.5
Mount Baldy	9000	1/30	24	5.2	11.8	14.5*
Mount Baldy	9000	2/5	46	10.6	11.8	14.5*
Mud Flat	5500	2/2	5	1.0	1.7	--
Pole Creek Rgr. Sta. Nev.	8330	1/30	30	6.8	11.8	10.7*
Prairie	5600	1/31	8	3.0	4.4	5.5*

*Estimated 1943-57 average. (o) Forecast made by W. T. Frost, S.G.S., Portland, Oregon. (+) Aerial observation, water content estimated. (a) Assuming normal meteorological conditions. (b) Actual or estimated 1943-57 average. (c) Observed flow corrected for storage in Arrowrock, Anderson Ranch and Lucky Peak. (d) Observed flow corrected for change of storage in Anderson Ranch Reservoir. (e) Observed flow corrected for change of storage in Cascade & Deadwood Reservoirs. (f) Observed flow corrected for change of storage in Cascade Reservoir. (g) Observed flow corrected for change of storage in Deadwood Reservoir. (h) Observed flow of Weiser River nr. Weiser minus the observed flow of Crane Creek at mouth. (i) From U.S.B.R. records of inflow. (**) 1944-1957 average.

BOISE, PAYETTE, WEISER, BRUNEAU, OWYHEE WATERSHEDS

LEGEND

- Watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- ▲ Forecast Point
- Snow Course
- † Aerial Snow Depth Gage
- ▴ Soil Moisture Station



WATERSHED LOCATIONS



SNOW

SNOW COURSE			CURRENT INFORMATION			PAST RECORD	
			DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME		ELEVATION				LAST YEAR	1943-57 AVERAGE
Red Canyon +		6650	1/23	1	0.2	2.6	--
Red Point +	Nev.	7940	1/28	8	1.8	5.3	--
Road Creek +		6800	2/4	8	2.4	7.2	8.5*
Rock Flat Summit		5200	1/28	18	3.2	13.2	12.9*
Rodeo Flat	Nev.	6800	1/28	T	T	3.0	6.4*
Seventy-six Creek +	Nev.	7100	1/28	T	T	6.2	8.3*
Silver City		6400	2/2	12	3.5	9.3	11.0*
Soldier Rgr. Sta.		6100	1/28	11	3.4	7.6	8.8*
Soldier Rgr. Sta.		6100	2/2	24	6.3	7.6	8.8*
South Mountain		6340	1/28	4	0.5	5.5	8.5
Squaw Flat +		6230	2/4	27	8.3	--	--
Squaw Meadow +		5800	2/6	47	14.9	21.9	27.6*
Succor Creek +		6100	1/23	0	0.0	--	--
Taylor Canyon	Nev.	6200	1/28	T	T	2.5	4.1*
Triangle +		5150	2/2	0	0.0	1.1	--
Trinity Mountain +		7400	2/4	67	18.7	25.8	29.5*
Tripod Summit		5200	2/4	16	4.1	13.2	--
Upper Jack Creek	Nev.	7250	1/28	T	T	8.0	6.5*
Vienna Mine +		8900	1/28	34	6.7	--	--
Willow Creek Cabin +		4710	2/4	0	0.0	0.9	--

WATER SUPPLY OUTLOOK and SNOW SURVEYS

SNAKE, BIG WOOD, LITTLE WOOD, RAFT, GOOSE CREEK, SALMON FALLS CREEK WATERSHEDS

IDAHO

as of

FEBRUARY 1, 1963

GENERAL SUMMARY

The water supply outlook for all rivers in the area is poor. However, reservoir hold-over in general is above average on those rivers with adequate storage facilities which can make up for a part or, in some cases, almost all of the deficiencies in streamflow forecasted.

Snow cover varies from 39% of normal on the Raft River to 71% on the Little Wood. The low elevation snow melted off during the latter part of January and the first few days in February. This melt and warm rain that fell upon the snow pack occurred over deeply frozen soils. The result was damaging, unusually fast runoff with river channels clogged with ice in many cases. The snow cover, even at high elevations, began to drop as soon as the most recent storms were over. Unusually warm temperatures have settled the snow pack and started a major melt. Undoubtedly this will stop, and the key snow measurements near the middle of the month will be an indication of how much snow-water has been lost.

Soil moisture in general is well below normal throughout the area. Before the snow pack developed deep enough for insulation, the soil froze unusually deep. The frozen soils resulted in the damaging high runoff that occurred when the low elevation snow melted accompanied by rain.

The reservoir-stored water is generally better than normal. Its good carry-over storage may be a significant factor in averting deficiencies if snowfall continues to be below normal for the remainder of the winter.

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair", "Average" or "Excellent" and STREAMFLOW FORECASTS (1,000 Ac. Ft.) ^a

STREAM and/or FORECAST POINT	OUTLOOK	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE
SNAKE River nr. Heise c	Average	2900	Apr-Sep	4132	70
BIG WOOD River at Hailey e	Fair	190	Apr-Sep	287	66
Magic Reservoir Inflow	Fair	192	Mar-Jul	309*	62
Camas Creek	Fair		Apr-Sep		
Little Wood River	Fair		Apr-Sep		
Goose-Trapper Creeks	Fair		Apr-Sep		
Salmon Falls Creek	Fair		Apr-Sep		

COMPARISON of SNOW COVER

RIVER BASIN WATERSHED	NO. OF COURSES AVERAGED	THIS YEARS SNOW WATER EXPRESSED AS PERCENT OF :	
		LAST YEAR	AVERAGE ^b
Upper Snake	28-30	50	55
Big Wood	7	64	55
Little Wood	1-3	66	71
Raft	1	38	39
Goose Creek	2	40	40
Salmon Falls Creek	7	41	40

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Jackson Lake	847.0	553.7	114.0	461.8
Palisades	1200.0	909.3	525.1	--
American Falls	1700.0	1174.9	1217.4	1335.9
Magic	191.5	93.4	19.2	123.7
Oakley	74.4	14.4	11.5	15.3
Salmon Falls	182.6	32.8	14.7	24.7
Little Wood	33.3	14.9	7.4	--

Report Prepared by

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U.S. DEPARTMENT OF AGRICULTURE --- SOIL CONSERVATION SERVICE

P.O. BOX 1247, BOISE, IDAHO

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
		DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION						
Badger Gulch	6660	36	7.0	1/28	4.3	6.1	--
Conner Pass	5700	36	9.8	2/1	6.0	5.5	--
Deadline	6900	36	7.4	2/1	3.7	4.7	--
Garfield Ranger Station	6554	36	5.2	12/27	3.0	3.6	2.8
Niggerhead	5450	36	10.1	12/27	6.6	6.1	6.0
Patrick Ranch	5720	36	7.7	1/30	2.8	3.1	3.1
Pole Creek Ranger Station	8330	48	12.7	1/30	6.1	8.8	6.6
Sublett	6000	36	7.0	1/30	3.2	6.4*	--
Trapper Creek	5300	36	10.0	12/27	3.4	4.2	--

* March 1 Measurement.

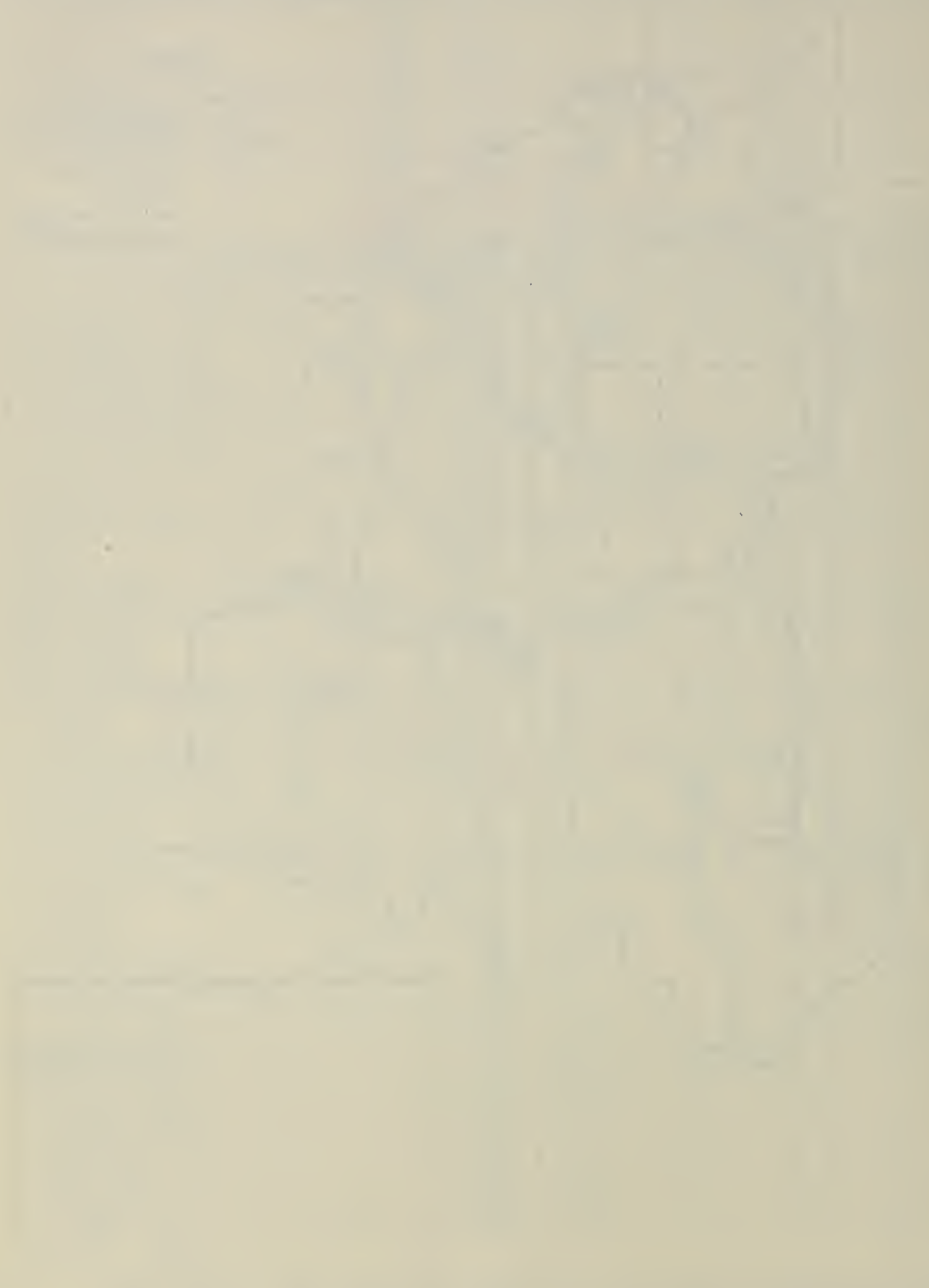
SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Badger Gulch	6660	1/28	6	1.2	8.5	--
Bear Creek + Nev.	7800	1/28	20	4.5	14.2	12.1*
Bennett Mountain	6650	2/2	26	5.5	13.0	--
Bostetter Rgr. Sta. +	7500	2/5	17	3.7	12.7	--
Boy Scout Camp +	7600	2/5	8	1.8	11.5	--
Camas Creeks Divide +	5720	2/4	0	0.0	5.6	--
Cedar Creek +	7000	1/28	8	1.7	6.3	8.0*
Clear Creek Meadows + Utah	9050	2/5	37	8.4	19.8	--
Couch Summit +	7000	1/28	19	4.4	12.4	14.0*
Deadline	6900	2/1	28	6.0	15.9	15.0*
Dollarhide Summit +	8700	1/28	33	9.2	15.6	20.2*
Galena	7500	1/29	25	5.6	12.6	13.3*
Galena	7500	2/4	49	10.0	12.6	13.3*
Galena Summit	8795	1/29	30	7.0	14.8	15.7*
Galena Summit	8795	2/4	59	11.6	14.8	15.7*
Garfield Rgr. Sta. +	6554	2/5	27	5.4	5.4	7.6*
Goat Creek + Nev.	8800	1/28	13	2.8	7.8	10.6*
Graham Ranch	6200	1/29	19	3.7	8.5	10.1
Howell Canyon	8000	2/1	25	6.7	17.5	17.2*
Hummingbird Springs + Nev.	8945	1/28	24	5.4	10.9	12.7*
Iron Bog	7650	1/29	22	4.2	8.0	--
Leadbelt	6800	1/30	15	2.7	5.8	--
Little Camas Flat +	4950	2/4	0	0.0	2.7	--
Lost-Wood Divide +	8750	1/28	28	6.5	13.9	--
Magic Mountain	6700	1/31	24	5.2	12.1	12.9*
Mount Baldy	9000	1/30	24	5.2	11.8	14.5*
Mount Baldy	9000	2/5	46	10.6	11.8	14.5*
North Fork Meadow +	8150	1/28	13	3.0	8.5	--
One Mile Summit Utah	7330	1/30	11	2.6	5.8	--
Pole Creek Rgr. Sta. Nev.	8330	1/30	30	6.8	11.8	10.7*
Porcupine +	8350	1/28	13	3.0	13.6	--
Porcupine +	8350	2/5	39	7.7	13.6	--
Red Point + Nev.	7940	1/28	8	1.8	5.3	--
Seventy-six Creek + Nev.	7100	1/28	T	T	6.2	8.3*
Sheep Hollow	6200	2/1	2	0.6	5.2	--
Shoshone Basin	5740	1/31	0	0.0	2.9	4.1*
Slickrock +	8640	1/28	21	4.9	8.2	--
Soldier Rgr. Sta.	6100	1/28	11	3.4	7.6	8.8*
Soldier Rgr. Sta.	6100	2/2	24	6.3	7.6	8.8*
Stickney Mill +	7500	1/28	11	2.5	--	--
Sublett	6000	1/30	12	2.4	--	--
Summit Springs +	8500	2/5	T	T	8.5	--
Swede Peak +	7500	1/28	20	4.5	12.0	--
Swede Peak +	7500	2/5	37	7.5	12.0	--
Twin Rocks +	8100	1/28	18	3.4	13.2	--
Vienna Mine +	8900	1/28	34	7.9	--	--
Vi Pont + Utah	7650	2/5	17	3.9	12.4	--
Wilson Creek +	7500	1/28	10	2.3	7.4	--

*Estimated 1943-57 average. (+) Aerial observation, water content estimated. (a) Assuming normal meteorological conditions. (b) Actual or estimated 1943-57 average. (c) Observed flow corrected for storage in Jackson Lake and Palisades Reservoir. (d) Observed flow corrected for storage in Jackson Lake, Palisades, Island Park, Grassy Lake, Henry's Lake and diversions between Heise and Blackfoot. (e) Combined discharge of Big Wood River and Big Wood Slough. (**) 1949-1960 average.

SNAKE RIVER, BIG WOOD, LITTLE WOOD, RAFT, GOOSE CREEK, SALMON FALLS CREEK WATERSHEDS





WATER SUPPLY OUTLOOK and SNOW SURVEYS UPPER SNAKE, BLACKFOOT, PORTNEUF, BEAR, MALAD WATERSHEDS IDAHO

as of

FEBRUARY 1, 1963

GENERAL SUMMARY

The general outlook for water supply in this area is low excepting on those rivers with adequate storage facilities. The main stem of the Snake and Blackfoot Rivers have storage capacities and carry-over which can make up for the deficiencies in streamflow. The recent floods which occurred have added significantly to stored water where the reservoir was below the flooding area.

The snow cover varies from 25% of normal on the Malad River to 55% on the Snake River above Idaho Falls. This is an unusually light snow pack for this time of the year when two-thirds of the total snow-water content should be down. The snow cover at low elevations has melted off and on many rivers, such as the Portneuf, created damaging floods. This occurred because the soil beneath the snow was frozen deeply. The warm rain and melting snow ran off almost entirely into river channels choked with ice to increase the damage and the hazard of high water.

Soil moisture measurements in this area indicated consistently frozen soils throughout all the watersheds before the storm near the end of January. Soil moisture is below normal in the area and indications are that practically all of the water ran off during the flood period without significantly adding moisture to the soil.

Reservoir-stored water on the main stem of the Snake River is well above normal and many of the smaller reservoirs increased significantly during the flood period.

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair", "Average" or "Excellent" and STREAMFLOW FORECASTS (1,000 Ac. Ft.) ^a

STREAM and/or FORECAST POINT	OUTLOOK	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE
Snake River nr. Heise	Average	2900	Apr-Sep	4132	70
Blackfoot River	Fair		Apr-Sep		
Portneuf River	Fair		Apr-Sep		
Bear River	Fair		Apr-Sep		
Cub River	Fair		Apr-Sep		
Montpelier Creek	Fair		Apr-Sep		

COMPARISON of SNOW COVER

RIVER BASIN WATERSHED	NO. OF COURSES AVERAGED	THIS YEARS SNOW WATER EXPRESSED AS PERCENT OF :	
		LAST YEAR	AVERAGE ^b
Snake ab. Idaho Falls	28-30	50	55
Blackfoot	3	39	42
Portneuf	3	22	31
Mink	3	40	47
Cub	2	41	38
Malad	2	22	25
Bear ab. Harer	5	38	46
Bear bl. Harer	12	32	37

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Jackson Lake	847.0	553.7	114.0	461.8
Palisades	1200.0	909.3	525.1	--
American Falls	1700.0	1174.9	1217.4	1335.9
Bear Lake	1421.0	721.3	485.3	806.4

Report Prepared by

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U.S. DEPARTMENT OF AGRICULTURE --- SOIL CONSERVATION SERVICE

P.O. BOX 1247, BOISE, IDAHO

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
		DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION						
Emigrant Summit	7350	36	8.2	1/30	3.6	3.4	--
Lower Pebble	5800	36	7.6	1/28	5.1	7.3	--
Pebble Creek	6550	48	7.2	1/28	3.9	4.4*	--
*Spring Measurement.							

SNOW

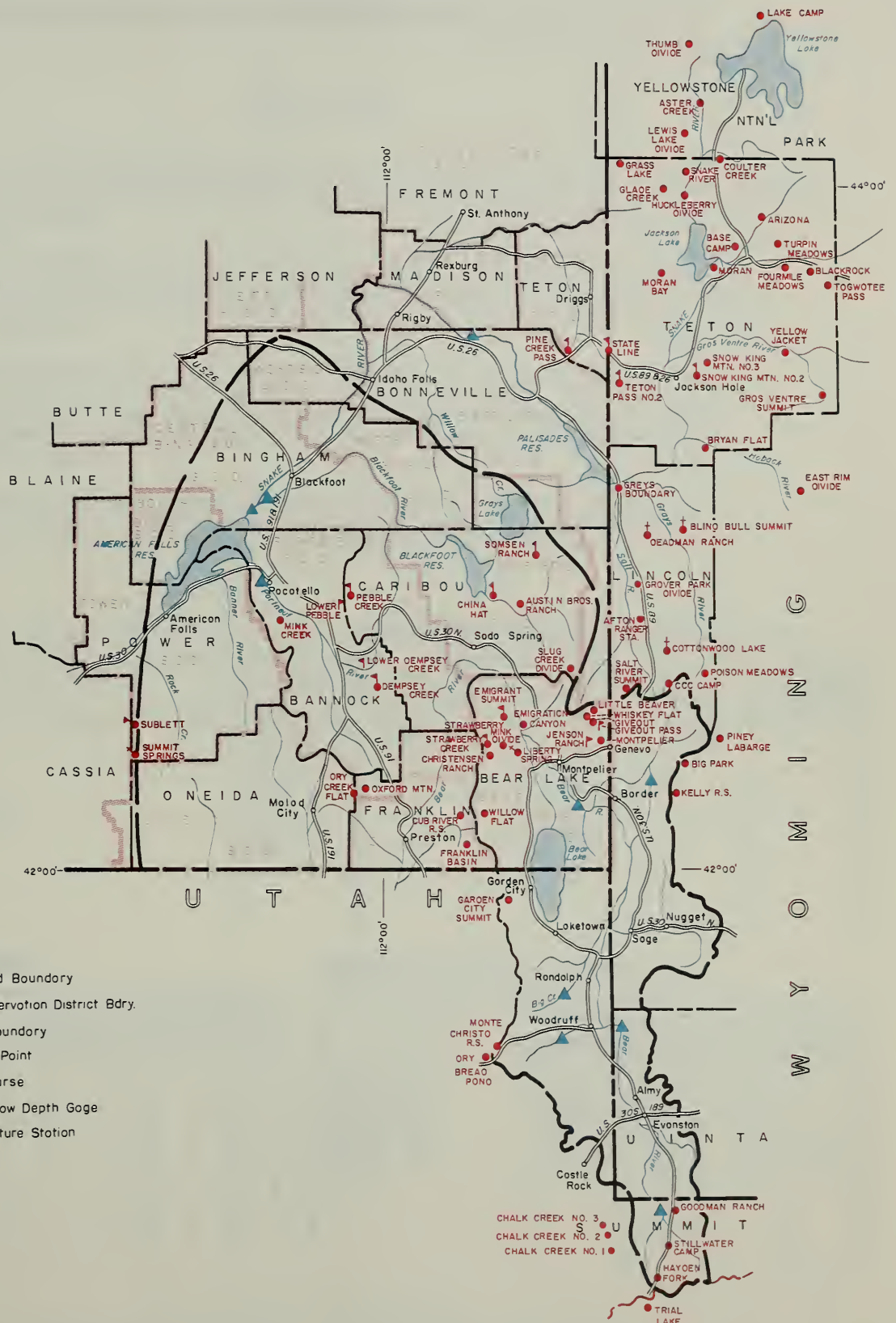
SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Austin Bros. Ranch	6450	1/31	16	2.4	6.8	5.4*
China Hat	6300	1/31	9	2.2	5.1	6.0*
Christensen Ranch	5600	1/31	12	2.6	7.5	6.4*
Cub River Rgr.Sta.	5400	1/30	18	3.2	7.4	5.9*
Dempsey Creek	6280	1/28	13	2.4	9.3	6.2*
Dry Creek Flat	6350	1/28	6	1.2	6.2	4.7*
Emigrant Summit	7700	1/30	30	5.4	16.6	--
Emigration Canyon	6300	1/30	19	3.3	--	--
Giveout	6850	1/28	15	2.7	--	--
Little Beaver	7000	1/28	18	3.5	--	--
Mink Creek	6300	1/29	16	3.2	12.3	8.2*
Montpelier Creek	6600	1/28	10	2.6	--	--
Oxford Mountain	6800	1/28	7	1.5	6.3	6.3*
Pebble Creek	6550	1/28	8	1.6	10.9	8.7*
Slug Creek Divide	7225	1/29	25	5.0	--	--
Somsen Ranch	7000	1/30	22	3.7	9.2	8.2*
Strawberry Creek	5800	1/31	13	3.4	9.2	7.7*
Strawberry-Mink Divide	6800	1/31	27	7.1	16.2	13.6*
Sublett	6000	1/30	12	2.4	--	--
Summit Springs +	8500	2/5	T	T	8.5	--
Whiskey Flat	6900	1/28	9	1.5	--	--
Willow Flat	6100	1/30	23	4.2	10.7	13.5*

*Estimated 1943-57 average. (o) Forecast made by Gregory L. Pearson, SCS, Salt Lake City, Utah. (+) Aerial observation, water content estimated. (a) Assuming normal meteorological conditions. (b) Actual or estimated 1943-57 average. (c) Observed flow corrected for storage in Jackson Lake and Palisades Reservoir. (d) Observed flow corrected for storage in Jackson Lake, Palisades, Island Park, Grassy Lake, Henry's Lake and diversions between Heise and Blackfoot.

UPPER SNAKE, BLACKFOOT, PORTNEUF, BEAR, MALAD WATERSHEDS

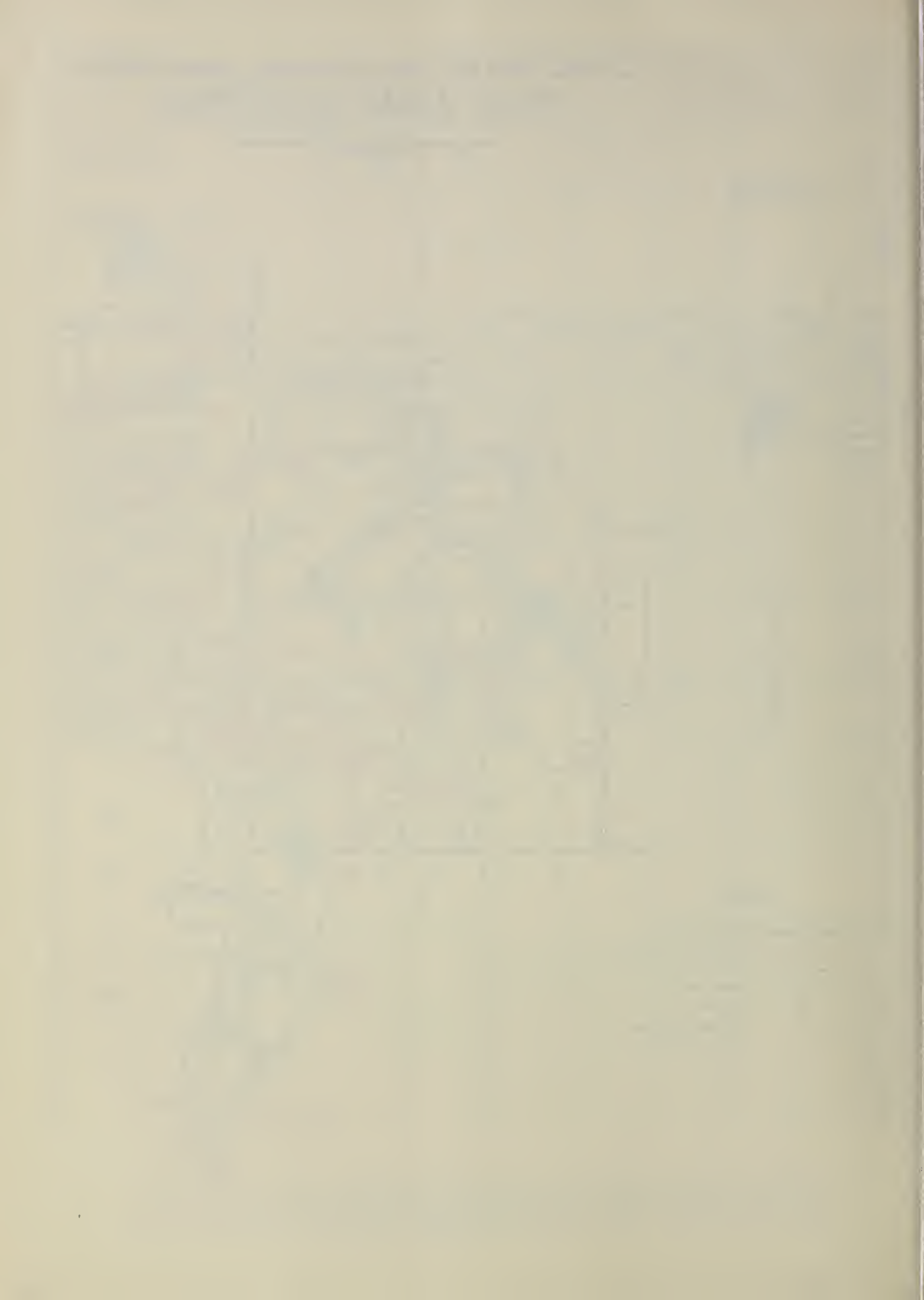
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SCALE IN MILES

WATERSHED
LOCATIONS



LEGEND

- Watershed Boundary
- - - Soil Conservation District Bdry.
- - - County Boundary
- ▲ Forecast Point
- Snow Course
- † Aerial Snow Depth Gage
- ┆ Soil Moisture Station



WATER SUPPLY OUTLOOK and SNOW SURVEYS UPPER SNAKE, HENRY'S FORK, TETON, CAMAS-BEAVER CREEK, LITTLE LOST, BIG LOST, UPPER SALMON WATERSHEDS IDAHO

as of

FEBRUARY 1, 1963

GENERAL SUMMARY

The water supply outlook in this area varies from poor to fair. Major rivers, such as the Snake, with good storage facilities have carry-over storage that can make up for deficiencies in streamflow. Those rivers that do not have adequate storage facilities face the possibility of water shortages in 1963.

Snow cover varies from 39% of normal on the Big Lost to 62% on the upper Salmon. The low elevation snow melted off and the higher elevations did not get a normal increase during January. Warm temperatures melted some of the snow even at 9,000 feet which is most unusual for this time of the year.

Soil moisture measurements in the area indicate relatively dry soils beneath the snow pack at all sites. Practically all of the soil moisture sites were deeply frozen during the middle of January because of the light snow cover and extremely cold temperatures. An unusually heavy amount of snow-water will be absorbed by the dry soil during the major snow-melt this coming spring.

Reservoir-stored water throughout the area is excellent. The reservoirs on the main stem of the Snake River have good carry-over storage which can make up for deficiencies in streamflow during the 1963 season if the snowfall continues below normal.

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair", "Average" or "Excellent" and STREAMFLOW FORECASTS (1,000 Ac. Ft.) ^a

STREAM and/or FORECAST POINT	OUTLOOK	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE
Snake River nr. Heise c	Average	2900	Apr-Sep	4132	70
Henry's Fork	Fair		Apr-Sep		
Teton	Fair		Apr-Sep		
Big Lost River nr. Mackay f	Fair	103	Apr-Sep	172	60
Little Lost	Poor		Apr-Sep		
Upper Salmon	Fair		Apr-Sep		

COMPARISON of SNOW COVER

RIVER BASIN WATERSHED	NO. OF COURSES AVERAGED	THIS YEARS SNOW WATER EXPRESSED AS PERCENT OF :	
		LAST YEAR	AVERAGE ^b
Upper Snake - Wyoming	23	51	56
Above Jackson Lake	12	50	55
Jackson Lake to Heise	11	52	60
Henry's Fork	3	43	53
Teton	2-4	50	45
Camas-Beaver Creek	2	41	42
Little Lost	5	61	45
Big Lost	1	48	39
Upper Salmon	2	66	62

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Jackson Lake	847.0	553.7	114.0	461.8
Palisades	1200.0	909.3	525.1	--
Island Park	127.0	119.3	64.5	107.6
Grassy Lake	15.2	11.7	7.8	12.8
Mackay	44.2	30.0	19.4	32.0

Report Prepared by

M. W. NELSON AND J. ALDEN WILSON

U.S. DEPARTMENT OF AGRICULTURE --- SOIL CONSERVATION SERVICE

P.O. BOX 1247, BOISE, IDAHO

SOIL MOISTURE

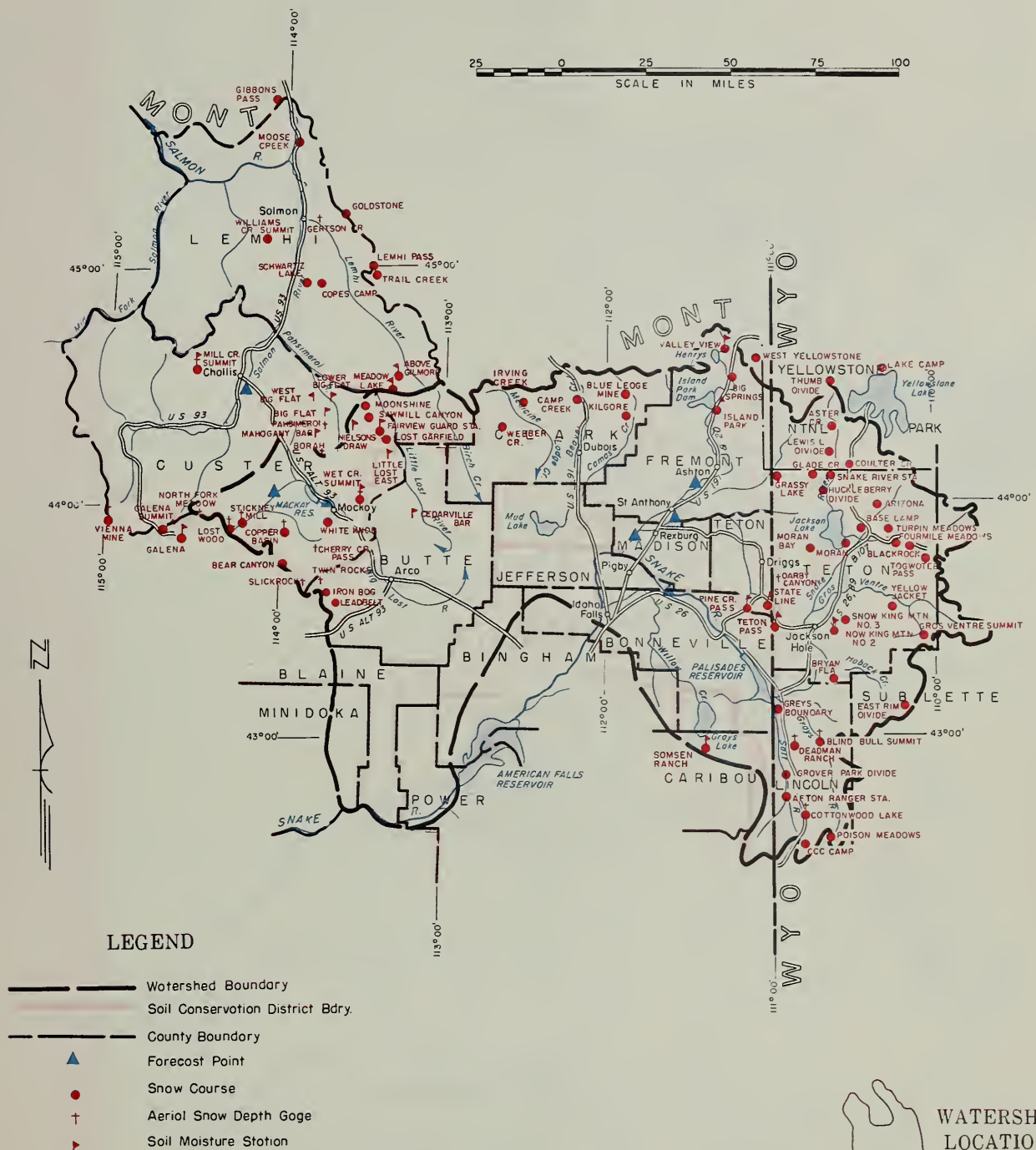
STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
		DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION						
Bell Mountain Bar	6640	18	3.6	1/31	Frozen	1.3	--
Big Flat	7050	18	3.6	1/29	Frozen	1.1	--
Cedarville Bar	5400	18	3.0	1/31	Frozen	1.0	--
Fairview Guard Station	5850	42	7.6	1/31	Frozen	3.9	--
West Big Flat	6550	18	3.2	1/29	Frozen	1.0	--

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Above Gilmore +	8200	2/4	21	4.4	--	--
Big Springs	6500	1/30	28	6.2	17.5	14.5
Camp Creek	6800	1/28	13	2.9	6.5	7.0
Cherry Creek Pass +	8900	1/28	2	0.4	0.7	--
Copes Camp +	7500	2/4	12	2.4	--	--
Copper Basin +	8000	1/28	7	1.6	--	--
Darby Canyon +	8250	2/1	38	9.8	14.5	--
Fairview Guard Sta.	6850	2/1	8	1.4	3.0	4.4*
Galena	7500	1/29	25	5.6	12.6	13.3*
Galena	7500	2/4	49	10.0	12.6	13.3*
Galena Summit	8795	1/29	30	7.0	14.8	15.7*
Galena Summit	8795	2/4	59	11.6	14.8	15.7*
Gertson Creek +	8050	1/28	10	2.2	5.1	--
Iron Bog	7650	1/29	22	4.2	8.0	--
Irving Creek	7035	1/28	11	1.5	3.8	--
Island Park	6315	1/30	25	4.9	13.2	11.3
Kilgore	6200	1/28	13	3.1	8.1	7.2
Leadbelt	6800	1/30	15	2.7	5.8	--
Lost-Garfield	6700	1/31	8	1.1	2.5	3.5*
Lost-Wood Divide +	8750	1/28	28	6.5	13.9	--
Lucky Dog	6900	1/30	34	8.2	--	--
Mill Creek Summit +	8870	2/5	51	10.0	--	--
Moonshine	7250	2/1	21	4.4	6.2	8.5*
Moose Creek	6200	1/28	26	5.7	11.6	11.9*
Morgan Creek Summit	7580	1/30	26	5.2	--	--
North Fork Meadow +	8150	1/28	13	3.0	8.5	--
Pahsimeroi +	7600	2/4	2	0.4	--	--
Pine Creek Pass	6750	1/28	23	4.8	11.2	--
Sawmill Canyon	7000	2/1	15	3.2	5.4	7.7*
Schwartz Lake +	8500	2/4	16	3.2	--	--
Slickrock +	8640	1/28	21	4.9	8.2	--
Somsen Ranch	7000	1/30	22	3.7	9.2	8.2*
State Line	6400	1/28	19	4.0	10.4	10.6
Stickney Mill +	7500	1/28	11	2.5	--	--
Teton Pass	8500	1/28	33	8.5	26.2	26.0*
Teton Pass	8500	2/4	49	12.6	26.2	26.0*
Twin Peaks +	9190	2/5	50	9.8	--	--
Twin Rocks +	8100	1/28	18	3.4	13.2	--
Valley View	6500	1/30	31	7.6	12.8	9.8*
Vienna Mine +	8900	1/28	34	7.9	--	--
Webber Creek	6700	1/28	10	1.4	3.0	--
West Yellowstone	6700	1/30	21	3.8	9.4	8.8
Wet Creek Summit +	8175	2/4	19	4.0	6.0	7.5*
White Knob	7700	1/29	12	2.2	4.6	5.6*

*Estimated 1943-57 average. (+) Aerial observation, water content estimated. (a) Assuming normal meteorological conditions. (b) Actual or estimated 1943-57 average. (c) Observed flow corrected for storage in Jackson Lake and Palisades Reservoir. (d) Observed flow corrected for storage in Island Park Reservoir and Henry's Lake. (e) Observed flow corrected for storage in Island Park Reservoir, Henry's Lake, Grassy Lake, and diversions between Ashton and Rexburg. (f) Observed flow corrected for storage in Mackay Reservoir and diversion in Sharp Ditch. (**) 1949-1960 average.

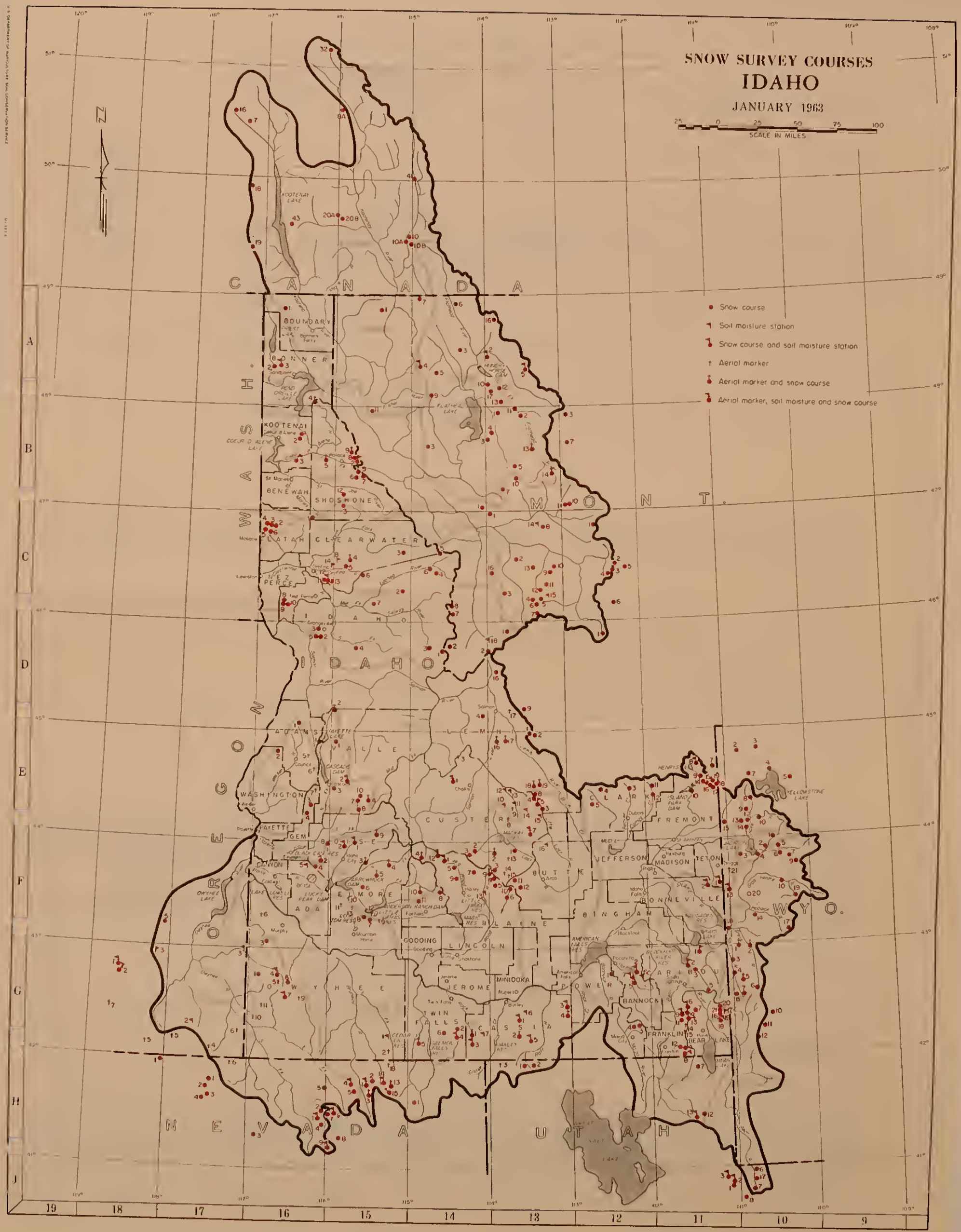
UPPER SNAKE, HENRY'S FORK, TETON, CASMAS- BEAVER CREEK, LITTLE LOST, BIG LOST, UPPER SALMON WATERSHEDS



SNOW SURVEY COURSES IDAHO

JANUARY 1963

SCALE IN MILES
0 25 50 75 100



Index to IDAHO SNOW COURSES

Index to IDAHO STATE COORDINATES					Index to IDAHO STATE COORDINATES					Index to IDAHO STATE COORDINATES					Index to IDAHO STATE COORDINATES																																							
NO.	STATE	NAME	SEC.	TRP.	HGE.	ELEV.	NO.	STATE	NAME	SEC.	TRP.	HGE.	ELEV.	NO.	STATE	NAME	SEC.	TRP.	HGE.	ELEV.	NO.	STATE	NAME	SEC.	TRP.	HGE.	ELEV.																											
			LAT.	AND	LONG.				LAT.	AND	LONG.						LAT.	AND	LONG.				LAT.	AND	LONG.																													
KOOTENAI RIVER																																																						
14211	M	Barre Creek	36	26N	31W	5500	10E3	WY	Canyon	44°44'		110°33'	7750	13F3	I	Bear Canyon	26	5N	21E	8600	13E14A	I	Above Williams	13	13W	26E	8200																											
14212	M	Brush Creek	13	30N	26W	5000	10G7	WY	COC Camp	9	29N	118W	7500	13F13a	I	Cherry Creek Pass	7	5N	23E	8900	13E11a	I	Back Flat	25	11W	23E	7550																											
16	BC	Ferguson	50°40'		11°20'	2900	10G5A	WY	Cottonwood Lake	25	31N	118W	7530	13F21	I	Copper Basin	24	6N	21E	8000	13E2e	I	Borch	21	10W	23E	8250																											
20	BC	Fernie	50°31'		11°20'	3500	10E10	WY	Coulter Creek	44°09'		110°33'	7600	13F11	I	Iron Bog	23	4N	24E	7650	13E2e	I	Chapman Creek	37	25W	28	8215																											
7	BC	Gerrard	50°33'		11°20'	5100	10G1A	WY	Deadman Ranch	26	34N	116W	6534	13F12	I	Leadbelt	34	4N	23E	7850	13E1A	I	Cipes Leap	16	28W	23E	8265																											
3	BC	Gray Creek	49°37'		11°21'	3800	10F17	WY	East Rim Divide	32	37N	111W	7450	14F31	I	Lost Wood Divide	19	6N	19E	8150	13D1e	I	Carlson Creek	11	8S	18W	8200																											
25E	BC	Kimberley	49°41'		11°20'	5000	10F6	WY	Four Mile Meadows	35	45N	112W	7770	14F15a	I	North Fork Meadow	20	7N	18E	8450	13D9	M	Id Stove	9	29W	23	3825																											
32	BC	Marble Canyon	49°12'		11°20'	6100	10E13	WY	Glade Creek	12	48N	116W	7200	14F16	I	Sliver Creek	17	6N	19E	7500	14D3	I	Jones Creek	9	10S	15W	7282																											
10E	BC	Morrissey Ridge	49°27'		11°20'	6100	10F18	WY	Grays Boundary	33	37N	118W	5800	14F21	I	Stickney Mill	9	6N	19E	8100	43E1	M	Leahy Pass	31	12W	23E	6500																											
10	BC	Nelson	49°25'		11°21'	3050	10F19	WY	Gros Ventre Summit	36	40N	111W	8750	13F15a	I	Twin Rocks	22	4N	22E	7700	13E13a	I	Lower Big Flat	10	10W	23E	7900																											
10A	BC	New Fernie	49°30'		11°20'	4100	10G3	WY	Grover Park Divide	27	33N	118W	7500	13F1	I	White Knob	25	7N	23E	7700	13E10	I	Mahogany Bar	24	13W	26E	9200																											
14A1	M	Red Mountain	49°59'	36N	11°14'	3100	10E4	WY	Huckleberry Divide	32	48N	115W	7300	BIG WOOD RIVER							13E8A	I	Meadow Lake	8	13W	17E	8870																											
18	BC	Sandon	50°11'		11°14'	4500	10F9	WY	Lewis Lake Divide	44°13'		110°40'	7900	14F8A	I	Dollar Hide Summit	16	3N	15E	8620	14E1M	I	Mill Creek Summit	22 & 26	27W	21E	5400																											
8A	BC	Stacclair Pass	49°59'		11°14'	4500	10F4	WY	Moran	8°17'	45N	114W	6800	14F1M	I	Galena	33	7N	15E	8795	13D16	I	Moose Creek	7	10N	22E	7600																											
24A1	I	Salt Creek	49°45'	61N	11°30'	4800	10F3	WY	Moran Bay	14	45N	114W	6800	14F12M	I	Galena Summit	33	7N	15E	8795	13E10a	I	Schwartz Lake	34	18W	22E	8500																											
20A	BC	Sullivan Mine	50°31'		11°20'	4700	10E2	WY	Morris Basin	10	45N	114W	6800	14F5	I	Graham Ranch	10	5N	17E	6200	13E2	M	Trell Creek	15	10S	15E	7590																											
14A1	M	Wassell Divide	8	37N	24W	5450	10F3	WY	Moran Bay	14	45N	114W	6800	14F7	I	Harriet Mine	8	4N	20E	7900	14E3a	I	Twir Peaks	28	15W	17E	9190																											
PRIEST RIVER																											14F9	I	Mount Baldy	26	4N	17E	9000	14F4	I	Vienna Mine	32	6N	14E	8900	13E12	I	West Big Flat	15	12W	23E	8550							
16A2	I	Benton Meadow	27	58N	4W	1341	10E2	WY	Poleon Meadows	29	30N	116W	8500	14F11	I	Soldier Ranger Station	19	2N	14E	6100	13E12a	I	Whitebird Summit	17	29W	21	4390																											
26A3M	I	Benton Spring	30	58N	7W	4900	10E8	WY	Salt River Summit	32	29N	117W	7900	LITTLE WOOD RIVER							14D5	I	Williams Creek Summit	34	21N	20E	7800																											
PEND OREILLE - CLARK FORK RIVER																											13F4M	I	Garfield Ranger Station	11	3N	21E	6554	13F10	I	Iron Mine Creek	32	3N	23E	6370	CLEARWATER RIVER							16C11	I	Above Creek	14	35W	2E	1240
13C13	M	Black Pine	23	8N	15W	7100	10E5	WY	Thumb Divide	29	44N	110W	9600	13F5	I	Muldoo	25	3N	21E	6300	16C12a	I	Brown	11	35W	3E	3100																											
12C5	M	Chesman Reservoir	1	8N	15W	6200	10F9	WY	Tegnotee Pass	14	45N	112W	6930	14F13M	I	Niggerhead	26	2N	20E	5450	15C3	I	Cayuse Airstrip	4	38W	11E	3700																											
14B10	M	Copper Creek	1	15N	9W	5700	10F10	WY	Yellowjacket	33	42N	112W	7675	14F14	I	Porcupine	30	4N	17E	8350	15C7	I	Coolwater Mountain	32	33W	8E	6200																											
12B11	M	Cotton Hill	12	18N	16W	4200	HENRY'S FORK RIVER							13F6	I	Suede Peak	4	3N	21E	7500	15C2	I	Fish Lake Airstrip	35	35W	11E	5000																											
13F10	M	Coyote Hill	23	8N	15W	7800	11E9	I	Big Springs	34	14N	44E	6500	13F6	I	Telfer Ranch	11	2N	22E	6000	15C2a	I	Fohl	16	36W	5E	3450																											
13C9	M	El Dorado Mine	12	6N	13W	8000	11E8	I	Black Canyon	11	13N	45E	7850	BOISE RIVER							15C8a	I	Foras	1	32W	5W	4550																											
13C11	M	Fred Burr Pass	6	5N	13W	6450	11E9	I	Black Horse	33	14N	45E	8125	14F2M	I	Bad Bear	35	4N	16E	5500	15B3	I	Forty-nine Meadows	13	35W	2E	3000																											
13C12a	M	Georgetown Lake	14	8N	12W	7200	10E15	WY	Grassy Lake	6	48N	117W	7230	14F7	I	Bennett Mountain	7	2S	7E	6050	16C13	I	Greer Summit	13	36W	61	5500																											
13C10	M	Gold Creek Lake	9	14N	27W	6200	11E10	I	Inland Park	29	13N	43E	6315	14F8	I	Bogus Basin Road	32	5N	1E	5360	14C6	I	Hamlock Run	12	36W	2E	4700																											
13C1	M	Woodoo Creek	6	5N	13W	6450	11E10	I	Lathas Springs	9	13N	45E	7650	14F5a	I	Bogus Basin Road	32	5N	1E	5360	14E3	I	Kit Carson Pasture	11	13W	24	4700																											
13C2	M	Intergaard	11	13N	14W	4040	11E11	I	Lucky Dog	12	13N	44E	7250	14F7a	I	Casas Creek Divide	11	2S	7E	5720	14C5	M	Lolo Pass	25	33W	24	4300																											
13C2	M	Lutrecht Forest	11	13N	14W	4100	11E15	I	Old Road	11	13N	45E	8000	14F10a	I	Cowh Summit	4	2N	14E	6950	14C8	I	Moffett	14	35W	2W	2000																											
13C12a	M	Lutrecht Forest	11	13N	14W	4100	11E17	I	Poacher's Cabin	7	15N	44E	6500	14F10a	I	Dansein	17	1N	7E	7440	16C12M	I	Midway	25	1S	24W	6575																											
13B1	M	North Fork Locke	10	17N	7W	7500	11E2	I	Valley View	34	13S	5E	6700	14F7	I	Deadman Gulch	24	7N	3E	6570	14C1	M	Mesquite Pass	15	1S	24W	6575																											
12B1	M	Pipestone Pass	27	6N	13W	7100	TETON RIVER							14F8	I	Divie Hill	13	4S	7E	6230	15D1	I	Trigra Mountain	24	27W	6E	7900																											
13C12	M	Red Lion	35	10N	16W	7100	10F21a	WY	Darby Canyon	28	43N	118W	8250	14F9	I	Jackson Peak	24	4N	17E	7000	14C5	I	Pierre Ranger Station	2	34W	1E	3171																											
13C2	M	Slide Rock Mountain	9	5N	13W	6500	11F2M	I	Pine Creek Pass	24	3N	44E	6750	14F10	I	Little-Casas Flat	21	1S	7E	4950	14C6	I	Powell Ranger Station	33	34W	1E	2390																											
13C5	M	Southern Cross	16	13N	7W	6400	11F1M	I	State Line	32	3N	46E	6400	14F13	I	Long Ice	19	1S	7E	4550	14C7	I	Savage Pass	14	36W	15E	6600																											
12C1	M	Steeple Pass	19	4N	17W	7720	10F13M	WY	Teton Pass	24	41N	118W	8500	14F6	I	Moore Creek Summit	13	2N	7E	5600	14C8	I	Stargel Summit	7	37W	8E	4800																											
13C7	M	Storm Lake	19	5N	13W	6500	CAMAS - BEAVER CREEK							14F14	I	Prairie	5	5N	2E	6800</																																		

Agencies Assisting with Snow Surveys , etc.

GOVERNMENT AGENCIES

Canada:

Department of Lands, Forests, and
Water Resources, British Columbia
Department of Resources and Development,
Water Resources Division

States:

Idaho State Reclamation Engineer
and Corps of State Watermasters
State of Idaho Department of Fish and
Game
University of Idaho
Idaho State College
Montana Agricultural Experiment Station
Montana State Water Conservation Board
Nevada Cooperative Snow Surveys
Oregon Agricultural Experiment Station
Oregon State Engineer and Corps of
State Watermasters
Utah Cooperative Snow Surveys
Wyoming Cooperative Snow Surveys

Federal:

U. S. Army Engineers

U. S. Department of Agriculture
Forest Service
Agricultural Research Service

U. S. Department of Commerce
Weather Bureau

U. S. Department of the Interior
Bonneville Power Administration
Bureau of Reclamation
Fish and Wildlife Service
Geological Survey
Indian Service
National Park Service
Bureau of Land Management

PUBLIC UTILITIES

The Montana Power Company
Washington Water Power Company
Idaho Power Company
Utah Power and Light Company

ORGANIZED PUBLIC AGENCIES

Big Lost River Irrigation District
Boise Project Board of Control
Little Wood River Irrigation District
Jordan Valley Irrigation District
Salmon Falls Creek Irrigation Company
Twin Falls Soil Conservation District
Twin Lakes Irrigation Company
Big Wood Irrigation Company
Owyhee Project - North & South Board of Control

PRIVATE CORPORATIONS

Amalgamated Sugar Company

*Other organizations and individuals furnish valuable information for
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with the Snow Survey"*